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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,716	09/25/2003	Hiroshi Watabe	031217	6377

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EXAMINER

BASINGER, SHERMAN D

ART UNIT PAPER NUMBER

3617

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,716

Applicant(s)

WATABE ET AL.

Examiner

Sherman D. Basinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-9 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanno 820 in view of Gregory and Kanno 188.

Kanno 820 discloses a system for controlling a speed of an internal combustion engine installed in an outboard motor mounted on a boat and having a propeller powered by the engine to propel the boat, the engine having a throttle valve 80 that regulates air to be sucked, the system comprising an actuator 86 connected to the throttle valve to move it in an opening direction or in a closing direction; an engine speed detecting means 228; an engine trouble detecting means 238; an engine speed discriminating means 256, 262 for discriminating whether the detected engine speed exceeds a predetermined speed when it is detected that the trouble has occurred in the engine; and a disable 270 for disabling combustion in order to slow engine speed or completely stop engine operation.

In Kanno 820 idle speed is the predetermined speed. See column 2, line 5.

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Kanno 820 does not disclose actuator driving means for driving the actuator 86 to move the throttle valve in the closing direction such that the engine speed drops when it is discriminated that the detected engine speed exceeds the predetermined speed and it is detected that the trouble has occurred in the engine, the actuator driving means driving the actuator to move the throttle valve in the closing direction by an amount repeatedly such that the engine speed is gradually lowered to the predetermined speed of idle.

Gregory discloses an actuator driving means 18 for driving the actuator 28 to move the throttle valve in the closing direction such that the engine speed drops to **idle (see column 2, line 37)** when it is sensed that the sensor 12 is about to leave the water.

Kanno 188 discloses in column 5, lines 55-60 that an ECU can be used to open and close the throttle valve with a stepper motor, the stepper motor being the actuator. A stepper motor will open and close the throttle valve by an amount repeatedly such that the engine speed will increase or drop gradually, the repeated amount being each step of the stepper motor.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to replace actuator 86 of Kanno 820 with a stepping motor as taught by Kanno 188 and to use the teachings of Gregory to have the disable 270 of Kanno 820 drive the stepping motor provided to

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Kanno 820 to close the throttle by an amount repeatedly such that the engine speed is gradually lowered to the predetermined speed of idle.

Motivation to do so is to control engine speed through use of the throttle as opposed to disabling a piston or causing any other type of engine speed reduction which is more detrimental to the engine than engine speed reduction through throttle control, to control the throttle with an ECU controller stepper motor avoiding the use of cables which require more hardware and to reduce engine speed to the predetermined engine speed of idle, a speed which is least likely to damage the engine and yet allow the engine to still run.

The alerting means is either of 266 or 268 of Kanno.

With regard to claim 4, the engine will still run at idle speed.

Kanno 820 discloses a computer program (see figure 8) embodied on a computer-readable medium (the ECU 110) for controlling speed of an internal combustion engine 36 installed in an outboard motor 10 mounted on a boat 20 and having a propeller 204 powered by the engine to propel the boat, the engine having a throttle valve 80 that regulates air to be sucked and an actuator 86 connected to the throttle valve to move it in

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an opening direction or in a closing direction, comprising the steps of:

detecting the speed of the engine S2;

detecting a trouble occurred in the engine S3; and

discriminating whether the detected engine speed exceeds a predetermined speed of

idle when it

is detected that the trouble has occurred in the engine S5.

Kanno 820 does not disclose driving the actuator to move the throttle valve in the closing direction by an amount repeatedly such that the engine speed is gradually lowered to the predetermined speed, when it is discriminated that the detected engine speed exceeds the predetermined speed when trouble is detected.

Kanno 820 does disclose a disable 270 for reducing engine speed when a trouble is detected and the engine speed is above the predetermined speed of idle (see column 2, lines 3-8).

Gregory discloses an actuator driving means 18 for driving the actuator 28 to move the throttle valve in the closing direction such that the engine speed drops to idle when it is sensed that the sensor 12 is about to leave the water (SUMMARY OF THE INVENTION, first paragraph).

Kanno 188 discloses in column 5, lines 55-60 that an ECU can be used to open and close the throttle valve with a stepper motor, the stepper motor being the actuator. A

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stepper motor will open and close the throttle valve by an amount repeatedly such that the engine speed will increase or drop gradually, the repeated amount being each step of the stepper motor.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to replace actuator 86 of Kanno 820 with a stepping motor as taught by Kanno 188 and to use the teachings of Gregory to have the disable 270 of Kanno 820 drive the stepping motor provided to Kanno 820 to close the throttle by an amount repeatedly such that the engine speed is gradually lowered to the predetermined speed of idle.

Again, motivation to do so is to control engine speed through use of the throttle as opposed to disabling a piston or causing any other type of engine speed reduction which is more detrimental to the engine than engine speed reduction through throttle control, to control the throttle with an ECU controller stepper motor avoiding the use of cables which require more hardware and to reduce engine speed to the predetermined engine speed of idle, a speed which is least likely to damage the engine and yet allow the engine to still run.

Response to Arguments

3. Applicant's arguments filed September 19, 2005 have been fully considered but they are not persuasive. Applicant arguments revolve around his position that the cited references either alone or in combination fail to disclose, teach or suggest the actuator driving means driving the actuator to move the throttle valve in the closing direction by an amount repeatedly such that the engine speed is gradually lowered to the predetermined speed.

In rebuttal, the references do suggest the actuator driving means driving the actuator to move the throttle valve in the closing direction by an amount repeatedly such that the engine speed is gradually lowered to the predetermined speed. Kanno 820 discloses the predetermined speed as being an idle speed. See column 2, lines 2-8. Kanno 820 does disclose a disable 270 which reduces engine speed or stops the engine completely when trouble is detected-when lubricant pressure is not sufficient for a particular speed of the engine. Gregory discloses reducing engine speed to idle when his sensor detects that the propeller is about to leave the water. In Gregory when trouble is detected engine speed is reduced to idle. Kanno 188 discloses the use of a stepper motor to control the throttle valve, a stepper motor closing or opening the throttle valve in repeated steps. From Gregory, one having ordinary skill in the art would have found it obvious to modify Kanno 820 to have the throttle valve closed to return the engine speed to idle as opposed to using a disable as 270 of Kanno 820 to reduce engine speed when trouble is detected. From Kanno 188 one of ordinary skill in

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the art would have found it obvious to use an ECU controlled stepper motor to control closing of the throttle valve instead of using cables.

With regard to applicant's arguments concerning motivation to combine the references, note the following taken from MPEP 706.02(j):

To support the conclusion that the claimed invention is directed to obvious subject matter, **either** the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

It is felt that the examiner has presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. The line of reasoning is as follows:

Kanno 820 does not disclose actuator driving means for driving the actuator 86 to move the throttle valve in the closing direction such that the engine speed drops when it is discriminated that the detected engine speed exceeds the predetermined speed and it is detected that the trouble has occurred in the engine, the actuator driving means driving the actuator to move the throttle valve in the closing direction by an amount repeatedly such that the engine speed is gradually lowered to the predetermined speed of idle.

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*Gregory discloses an actuator driving means 18 for driving the actuator 28 to move the throttle valve in the closing direction such that the engine speed drops to **idle (see column 2, line 37)** when it is sensed that the sensor 12 is about to leave the water.*

Kanno 188 discloses in column 5, lines 55-60 that an ECU can be used to open and close the throttle valve with a stepper motor; the stepper motor being the actuator. A stepper motor will open and close the throttle valve by an amount repeatedly such that the engine speed will increase or drop gradually, the repeated amount being each step of the stepper motor.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to replace actuator 86 of Kanno 820 with a stepping motor as taught by Kanno 188 and to use the teachings of Gregory to have the disable 270 of Kanno 820 drive the stepping motor provided to Kanno 820 to close the throttle by an amount repeatedly such that the engine speed is gradually lowered to the predetermined speed of idle.

MPEP 706.02(j) also states: The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor as done.

The examiner has provided a suggestion of the desirability of doing what the inventor has done as follows:

Motivation to do so (modify Kanno 820 with Gregory and Kanno 188) is to control engine speed through use of the throttle as opposed to disabling a piston or causing any other type of engine speed reduction which is more detrimental to the engine than engine speed reduction through throttle control, to control the throttle with an ECU controller stepper motor avoiding the use of cables which require more hardware and to reduce engine speed to the predetermined engine speed of idle, a speed which is least likely to damage the engine and yet allow the engine to still run.

For the above reasons the rejections stand.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherman D. Basinger whose telephone number is 571-272-6679. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samuel J. Morano can be reached on 571-272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sherman D. Basinger
Primary Examiner
Art Unit 3617

10/28/05